Statement of Work

I. Title: Evaluating the Strengths and Weaknesses of Alternative Reduced Form Benefits Techniques
Contractor Name: Industrial Economics, Incorporated
Contract #: EP-D-14-032
WA #: 4-52

II. Work Assignment Manager (WAM):

WAM Name: Elizabeth Chan
Office of Air and Radiation
Office of Air Quality Planning and Standards
Health and Environmental Impacts Division (C539-07)
Durham, NC 27709
Phone: (919) 541-3771

Alt. WAM Name: Neal Fann
Office of Air and Radiation
Office of Air Quality Planning and Standards
Health and Environmental Impacts Division (C539-07)
Durham, NC 27709
Phone: (919) 541-0209

III. Background:

The U.S. EPA has relied extensively on so-called "reduced-form" techniques to quantify the incidence and economic value of air quality policies. Beginning in 2009, the Agency employed $PM_{2.5}$ benefit per ton (BPT) estimates derived from a meta-model of the CMAQ photochemical transport model. In 2012, EPA transitioned to using BPT estimates calculated using CAMx source apportionment modeling. In other cases, the EPA has calculated benefit per ton values to calculate the benefits of more and less stringent alternative policies by using the model simulations performed for the policy scenario.

The Agency has most often used BPT estimates to quantify the co-benefits of reduced emissions of $PM_{2.5}$ and $PM_{2.5}$ precursors, including NOx and SOx. Large-scale national rules including the Mercury and Air Toxics Standards, the Ozone Cross-State Air Pollution Rule, the NO_2 NAAQS, the SO_2 NAAQS, the Pb NAAQS, Light- and Heavy-Duty Vehicle GHG rules, and others have each used BPT values to quantify the benefits of reducing $PM_{2.5}$, ozone, or both. To date, the Agency has not formally explored the sensitivity of the BPT values to factors including the level and distribution of precursor emissions or the sectors affected. In WA 2-31 several reduced-form tools were identified. This WA will follow and build on the progress made under WA3-40.

IV. Description and Tasks:

Task #1: Develop work plan and administer project

Within 20 calendar days of the effective date of this WA, the Contractor shall submit a work plan to the Work Assignment Manager (WAM). The Contractor shall arrange and conduct an initial phone conference with the WAM within one week of the WAM approving the WA. After this initial teleconference, the Contractor shall lead regular phone conferences at a bi-weekly basis to discuss work progress and any issues associated with the work tasks. The Contractor shall prepare an agenda for such weekly meetings, record meeting minutes, and distribute such meeting minutes to all participants.

Task #2: Prepare the results for peer review and package results in a manuscript-ready format

Task 2a. Agency Peer Review

Subject to technical direction from the WAM, the Contractor shall assist the WAM in preparing a report, and eventually manuscript, for peer review. To the extent that the Agency determines that this project will be peer reviewed as either an Influential Scientific Information (ISI) report or a Highly Influential Scientific Assessment (HISA), the Contractor shall support the WAM in developing a peer review plan and preparing for the peer review panel. The Contractor shall further assist the WAM in responding to comments on the report.

Task 2b. Develop Manuscript for Publication

Working in collaboration with the WAM, the Contractor shall develop a manuscript for publication to a peer-reviewed journal. The Contractor shall identify a list of suitable journals that do not assess page charges. The Contractor shall determine the appropriate format and presentation for various results, and may include figures, tables, maps, and summary text. The Contractor shall then develop, prepare, and deliver all results in a format that is ready for publication in a peer-reviewed journal. The Contractor shall assist in responding to 1 or more rounds of reviewer comments.

V. QA Requirements:

The Contractor shall include a quality assurance section in the final report discussing the data used with respect to precision, accuracy, representativeness, comparability, completeness, sensitivity and appropriateness as it applies to this use and its source. The QA section will discuss how the Contractor ensured that the environmental data were of acceptable quality and that they were being used for the purpose for which they were collected.

VI. Deliverables:

The Contractor shall adhere to the following schedule:

Task	Deliverable	Delivery Schedule
1	Cost estimate	20 days after effective date of WA

2a	Draft manuscript	1 month after the effective date of the WA
2b	Final manuscript	3 months after the effective date of the WA

VII. Reporting Requirements:

All reports shall be in accordance with contract specifications. The Contractor shall submit work products in electronic as well as hard copy form. In addition, the Contractor shall deliver to the WAM each draft and final report in electronic format that is readable by OAQPS's windows-based word-processing (Microsoft Word 2016), graphics (Microsoft PowerPoint 2016), spreadsheet (Excel 2016), and database (Access 2016) programs.